If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match.
The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.
Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

8.15.3 Chipmunk Radiation Monitors

Text Pages 2 through 6

Attachments

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approved: _____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

V. Castillo

8.15.3 Chipmunk Radiation Monitors

1. Purpose

The purpose of this document is to provide the Access Control Group (ACG) with operating, installation and decommissioning instructions for the Chipmunk Radiation Monitors.

2. Responsibilities

2.1 The C-A ACG is responsible for supplying calibrated Chipmunks and coordinating their installation in locations around the C-A Complex as requested by the Radiation Safety Committee (RSC).

2.2 Responsible Groups are the Radiation Safety Committee; Liaison Physicists; C-A ACG; Radiation Control Division (RCD), C-A Operations Group and C-A Controls Group. These groups share the responsibilities of Chipmunk Installation, Operation, Maintenance and Decommissioning.

2.3 The Liaison Physicist is responsible for requesting the installation or decommissioning of a Chipmunk and initiates these activities by filling out the pertinent parts of the Chipmunk Installation Request form, BNL F2948A or the Chipmunk Decommissioning form, BNL F2947A, respectively.

2.4 The Liaison Physicist is responsible for determining the location for the Chipmunk installation.

2.5 The Liaison Physicist is responsible for establishing the interlock trip level and the alarm level for the Chipmunk.

2.6 The Chairman of the Radiation Safety Committee is responsible for approving all Chipmunk Installations and Decommissioning and initials all approved forms.

2.7 The ACG is responsible for maintaining Chipmunks during the C-A operation and for their Installation and Decommissioning.

2.8 The ACG is responsible for installing Interlock Boxes that link Chipmunks to the Security System, and testing the installation back to the Main Control Room. Note that not all Chipmunks are linked to the Security System.

2.9 The RCT is responsible for testing installed Chipmunks with a Radioactive Source back to the C-A Main Control Room.

2.10 The C-A Operations Group is responsible for providing a computer address for a Chipmunk that is linked to the computer.

2.11 The C-A Operations Group is responsible for coordinating the testing of Chipmunk installations to the Control Room.

2.12 The C-A Controls Group is responsible for the computer hardware and software that processes data from the Chipmunk.

2.13 The Responsible Groups are responsible for documentation on the Chipmunks as detailed in section 6, Documentation.

3. Prerequisites

3.1 A Chipmunk Installation Request: BNL F2948A, appropriately filled and signed. Instructions for filling are in C-A-OPM-ATT 8.15.3.d. A Chipmunk Installation Request From may be obtained from the C-A ACG.

3.2 A Chipmunk Decommissioning Request: BNL F2947A, appropriately filled and signed. Instructions for filling are in C-A-OPM-ATT 8.15.3.b. A Chipmunk Decommissioning Request Form may be obtained from the C-A ACG.

3.3 Qualified and trained staff from the C-A ACG (for interlocked installations), RCD and the Main Control Room.

4. Precautions

4.1 Affected groups, e.g. Experimenters, use the Chipmunks for radiation monitoring.

4.2 An unscheduled interruption in the operation of a Chipmunk must be reported to all Responsible Groups.

4.3 Scheduled interruption in the operation of a Chipmunk must be coordinated with the Responsible and the Affected Groups.

5. Procedure

5.1 Chipmunk Installation

5.1.1 Radiation Safety Committee determines the need.

5.1.2 Liaison Physicist enters information on the Installation Request Form.

5.1.3 Installation Request Form is approved by the chairman of the Radiation Safety Committee.

5.1.4 The C-A ACG Representative distributes sign-off pages as necessary.

5.1.5 The C-A ACG technician obtains a Calibrated Chipmunk.

5.1.6 The Liaison Physicist gives the exact location for the Chipmunk.

5.1.7 The C-A ACG technician installs the Chipmunk, marks place if required.

5.1.8 The C-A ACG technician runs cables to Data Processing hardware if necessary.

5.1.9 The C-A ACG installs interlock box if necessary.

5.1.10 The C-A ACG Technician checks chipmunk computer address with C-A Operations Coordinator.

5.1.11 The RCD tests Chipmunk with radiation source to Main Control Room.

5.1.12 The C-A ACG Representative obtains Sign-off initials on white and yellow copies.

5.1.13 The C-A ACG Representative signs and dates white copy.

5.1.14 The C-A ACG Representative returns white copy to Chairman of the Radiation Safety Committee for the RSC Chipmunk Installation and Decommissioning Log.

5.1.15 The C-A ACG Representative completes, signs, and dates yellow copy, and returns for the ACG Chipmunk Installation and Decommissioning Log.

5.1.16 The C-A Operations Group Representative completes, signs, and dates green copy, and returns for the C-A Operations Group Chipmunk Installation Log.

5.1.17 The RCD representative completes, signs, and dates the manila copy, and returns for RCD Chipmunk Installation Log.

5.2 Chipmunk Decommissioning

5.2.1 Liaison Physicist enters information on the Decommissioning Request form.

5.2.2 Decommissioning Request form is approved by the Chairman of the Radiation Safety Committee.

5.2.3 Responsible (2.1) and Affected (4.1) Groups are advised of the Decommissioning of the Chipmunk.

5.2.4 The C-A ACG technician takes power off Chipmunk and disconnects from data processing hardware, if connected.

5.2.5 The C-A ACG disconnects interlock box if connected.

5.2.6 The C-A ACG technician stores the Chipmunk for reuse, recalibration or repair as required.

5.2.8 The C-A ACG Representative obtains Sign-off initials on white and yellow copies.

5.2.9 The C-A ACG signs and dates white and yellow copies.

5.2.10 The C-A ACG Representative returns white copy to Chairman of the Radiation safety Committee for the RSC Chipmunk Installation and Decommissioning Log.

5.2.11 The C-A ACG Representative completes the yellow copy Malfunction Investigation for Malfunctioned Chipmunks and returns for the ACG Chipmunk Installation and Decommissioning Log.

6. Documentation

6.1 The Radiation Safety Committee, and the Responsible Groups, except the C-A Controls Group, maintain logs on Chipmunk Installation and Decommissioning.

6.2 The C-A ACG maintains a log of calibration data on each Chipmunk.

6.3 The C-A ACG maintains Electrical and Mechanical drawings of the Chipmunk.

6.4 The RCD maintains a map of the locations of Chipmunks in operation.

6.5 The RCD maintains a "Detector File List Program" which provides the following Chipmunk information:

6.5.1 Line No. - the program line number.

6.5.2 Location - the Radiation Control Technician (RCT) description of the location of the Chipmunk.
6.5.3 Name - the NMO No. or computer address of the Chipmunk.
6.5.4 Interlock - interlock level of a Chipmunk if it is interlocked.
6.5.5 Constant - the value of one pulse from the Chipmunk in mrem/hr.
6.5.6 Offset - error correction to the Chipmunk's output for the Fail-Safe source and other background radiation.
6.5.7 Minimum - a correction used in the 10-day archive program that is maintained by the C-A Controls Group.
6.5.8 Limit - the radiation level at which a Chipmunk will alarm the C-A Main Control Room Operator via the computer.

6.6 The C-A Controls Group maintains the computer hardware and software that processes the data from the Chipmunks.

7. References

None

8. Attachments

8.1 Chipmunk Decommissioning Request, BNL Form F2947A.

8.2 Chipmunk Installation Request, BNL Form F2948A.

8.3 C-A-OPM-ATT 8.15.3.b "Instructions for Chipmunk Decommissioning Request Form BNL F2947A".

8.4 C-A-OPM-ATT 8.15.3.d "Instructions for Chipmunk Installation Form BNL 2948A".

CHIPMUNK DECOMMISSIONING REQUEST

INSTALLATION REQUEST NO._____

LOCATION:_____

EXP. NO._____

CONTACT_____

_____

REASON FOR REMOVAL:

- ☐ MALFUNCTION
- ☐ REQUEST TERMINATED
- ☐ RELOCATION

NOTIFY CONTACT IMMEDIATELY UPON REMOVAL? ☐ YES ☐ NO

SPECIAL INSTRUCTIONS:_____

_____

_____

_____

_____

_____

REQUESTED BY:_____ DATE:_____

UNIT #:_____ NMO #:_____

DATE:_____ LOCATION:_____

(ACG) (RCD)

JUSTIFICATION REMARKS:

_____

_____

_____

_____

_____

_____

_____

_____

SIGN-OFF

ACCESS CONTROLS GROUP: ☐ OPERATIONS COORDINATOR: ☐ RADIOLOGICAL CONTROL TECHNICIAN: ☐

REMOVAL COMPLETE:_____ DATE:_____

BNL F 2947A

WHITE - RADIATION SAFETY COMMITTEE **YELLOW - ACCESS CONTROLS GROUP**

CHIPMUNK INSTALLATION REQUEST

INSTALLATION REQUEST NO._____ REQUIRED DATE OF INSTALLATION:_____

LOCATION:_____

EXP. NO._____

CONTACT_____

SPECIAL INSTRUCTIONS:

REPLACEMENT DEVICE	☐ NO	☐ YES	(SEE INSTALLATION REQUEST NO._____)
LOCAL AREA MONITOR	☐ NO	☐ YES	
MARKED PLACEMENT	☐ NO	☐ YES	
SECURITY SYSTEM DEVICE	☐ NO	☐ YES	

SECURITY SYSTEM DEVICE TRIP LEVEL_____mR/hr.

ALARM LEVELS

PROTONS_____mR/hr. HEAVY IONS_____mR/hr.

NOTIFY CONTACT IMMEDIATELY UPON COMPLETION? ☐ YES ☐ NO

OTHER INSTRUCTIONS: _____

REQUESTED BY:_____DATE:_____

UNIT #:_____NMO #:_____

DATE:_____LOCATION:_____

(ACG) (RCD)

JUSTIFICATION REMARKS:

SIGN-OFF

ACCESS CONTROLS GROUP: ☐ OPERATIONS COORDINATOR: ☐ RADIOLOGICAL CONTROL TECHNICIAN: ☐

INSTALLATION COMPLETE:_____ DATE:_____

BNL F 2948A

RADIATION SAFETY COMMITTEE